## What is claimed is:

- 1. A synthetic oligonucleotide having a nucleotide sequence corresponding to from about 12 nucleotides to all of the nucleotide sequence of a genetic suppressor element (GSE) produced according to a method for identifying genetic suppressor elements that confer a selectable phenotype upon a eukaryotic cell, wherein the method comprises the steps of:
  - (a) synthesizing randomly fragmented cDNA prepared from the total mRNA of a cell to yield DNA fragments;
  - (b) transferring the DNA fragments to an expression vector to yield a genetic suppressor element library, wherein each of the DNA fragments is operatively linked to a protein translation initiation codon, and wherein the expression vector expresses the DNA fragments in a living eukaryotic cell that is capable of exhibiting the selectable phenotype;
  - (c) genetically modifying living cells by introducing the genetic suppressor element library into the living eukaryotic cells;
  - (d) isolating or enriching for genetically modified living eukaryotic cells containing genetic suppressor elements that confer the selectable phenotype by selecting cells that express the selectable phenotype, and;
  - (e) obtaining the genetic suppressor element from the genetically modified cells.
- 2. A synthetic oligonucleotide according to claim 1, wherein the genetic suppressor element is an antisense-oriented genetic suppressor element encoding an RNA molecule.
- 3. A synthetic oligonucleotide having a nucleotide sequence corresponding to from about 12 nucleotides to all of the nucleotide sequence encoded by a genetic suppressor element (GSE) produced according to a method for identifying genetic suppressor elements corresponding to genes that when suppressed by GSEs, confer a selectable phenotype upon a eukaryotic cell, wherein the method comprises the steps of:
  - (a) obtaining genomic DNA or a total mRNA population from the cells;
  - (b) randomly fragmenting the genomic DNA or synthesizing randomly fragmented cDNA from the total mRNA to produce a population of randomly fragmented DNA fragments;

- ligating the randomly fragmented DNA fragments to synthetic adaptors to produce (c) amplifiable random DNA fragments;
- amplifying the amplifiable random DNA fragments to provide a mixture of amplified (d) DNA fragments;
- cloning the mixture of amplified DNA fragments into a suitable expression vector to produce a random fragment expression library;
- transferring the random fragment expression library into appropriate target cells; (f)
- isolating or enriching for genetically modified living cells containing a selectable (g) phenotype-conferring genetic suppressor element by selecting or enriching for cells that express the selectable phenotype; and
- recovering the GSE from the target cell having the selectable phenotype. (h)
- A synthetic oligonucleotide according to claim 3, wherein the genetic suppressor 4. element is a antisense-oriented genetic suppressor element encoding an RNA molecule.
- A synthetic oligonucleotide having a nucleotide sequence comprising from about 12 5. nucleotides to all of the nucleotides comprising a GSE produced according to a method for identifying genetic suppressor elements that confer upon a eukaryotic cell resistance to one or more chemotherapeutic drugs, wherein the method comprises the steps of:
  - obtaining random DNA fragments of a gene associated with sensitivity to (a) chemotherapeutic drugs;
  - transferring the random DNA fragments to an expression vector to yield a genetic (b) suppressor element library, wherein each of the random DNA fragments is operatively linked to a protein translation initiation codon, and wherein the expression vector is capable of expressing the DNA fragments in a living eukaryotic cell that is susceptible of inhibitory effects of a chemotherapeutic drug;
  - genetically modifying living eukaryotic cells by introducing the genetic suppressor (c) element library into the living cells;

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-52-

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- (d) isolating or enriching for genetically modified living cells containing chemotherapeutic drug resistance-conferring genetic suppressor elements by selecting cells in the presence of a chemotherapeutic drug, and;
- (e) obtaining a genetic suppressor element from the genetically modified eukaryotic cells.
- 6. A synthetic oligonucleotide according to claim 5, wherein the genetic suppressor element is an antisense-oriented genetic suppressor element encoding an RNA molecule.
- 7. A synthetic oligonucleotide having a nucleotide sequence comprising from about 12 nucleotides to all of the nucleotides of a GSE identified by Seq. ID No. 1, 6-8, 11, 14 or 15.
- 8. A synthetic oligonucleotide according to Claim 1, wherein the selectable phenotype is resistance in a eukaryotic cell to one or more chemotherapeutic drugs, and wherein the GSE comprises a portion of a gene otherwise not recognized as being responsible for said selectable phenotype.
- 9. A synthetic oligonucleotide according to Claim 3, wherein the selectable phenotype is resistance in a eukaryotic cell to one or more chemotherapeutic drugs, and wherein the GSE comprises a portion of a gene otherwise not recognized as being responsible for said selectable phenotype.
- 10. A synthetic oligonucleotide having a nucleotide sequence corresponding to from about 12 nucleotides to all of the nucleotides of a genetic suppressor element (GSE) that is produced according to a method for identifying genetic suppressor elements that confer a selectable phenotype upon a eukaryotic cell, wherein the method comprises the steps of:
  - (a) synthesizing randomly fragmented cDNA prepared from the total mRNA of a cell to yield DNA fragments;
  - (b) transferring the DNA fragments to an expression vector to yield a genetic suppressor element library, wherein each of the DNA fragments is operatively linked to a protein

translation initiation codon, and wherein the expression vector expresses the DNA fragments in a living eukaryotic cell that is capable of exhibiting the selectable phenotype;

- (c) genetically modifying living cells by introducing the genetic suppressor element library into the living eukaryotic cells;
- (d) isolating or enriching for genetically modified living eukaryotic cells containing genetic suppressor elements that confer the selectable phenotype by selecting cells that express the selectable phenotype;
- (e) obtaining the genetic suppressor element from the genetically modified cells, wherein the GSE comprises a portion of a nucleic acid selected from the group consisting of nucleic acids identified by Seq. ID Nos. 1, 6-8, 11, 14 and 15, wherein said portion of the nucleic acid disrupts expression of a protein produced by the cell.